Freeway Management Survey

AGENCY CHARACTERISTICS

1. Total freeway centerline miles operated by your agency: TotalMiles

2. Indicate the number of staff performing freeway management, operations and maintenance in the following categories:

- Number of in-house management and operations staff: staff_inhouse_mgt
- Number of outsourced management and operations staff: staff_outsourced_mgt
- Number of in-house maintenance staff: staff_inhouse_maint
- Number of outsourced maintenance staff: staff_outsourced_maint

3. What types of training do you provide and/or require for in-house freeway management staff? (Check all that apply)

- Provide funding and encouragement for personnel to attend training training_inhouse_funding
- Provide training program training_inhouse_program
- Require formal training leading to certification training_inhouse_certification

4. What types of training do you provide and/or require for outsourced freeway management staff? (Check all that apply)

- Provide funding and encouragement for personnel to attend training training_outsourced_funding
- Provide training program training_outsourced_program
- Require formal training leading to certification training_outsourced_certification

SURVEILLANCE

5. Total number of freeway centerline miles with real-time traffic data collection technologies (does not include Closed Circuit TV or CCTV): MilesUnderSurveillance

5a. Number of these miles where real-time traffic data are collected using roadside infrastructure such as loops, radar detectors, or video imaging detector systems: MilesUnderSurvDetectors

5b. Number of these miles where real-time traffic data are collected by vehicle probes, using technology such as toll tag readers, cell phones, etc.: MilesUnderSurvProbes

6. What type of vehicle probe readers are used to obtain traffic information? (Check all that apply) 1=Selected, 0=Not selected

- Toll tag readers TypeProbeToll
- Blue tooth readers TypeProbeBlue
- Cellular phone readers TypeProbeCell
- GPS readers TypeProbeGPS
- License plate recognition fTypeProbeOCR
- Do not collect vehicle probe data TypeProbeDoNotCollect
- Other readers (please specify): TypeProbeOtherText

7. Total number of freeway traffic surveillance detector stations deployed by your agency: DetectorStations

8. For each of the following technologies, please indicate the number deployed by your agency and the approximate percentage that are operational (reliably operating as intended):

	Number Deployed	Percent Operational
Loop stations:	DetectorStationsLoopNumber	DetectorStationsLoopPercent
Radar stations:	DetectorStationsRadarNumber	DetectorStationsRadarPercent
Video imaging detector stations:	DetectorStationsVideoNumber	DetectorStationsVideoPercent
Toll tag readers:	DetectorStationsTollNumber	DetectorStationsTollPercent
Other stations (please specify):	DetectorStationsOtherNumber	DetectorStationsOtherPercent

DetectorStationsOtherText

RAMP CONTROL

9. Total number of freeway entrance ramps operated by your agency: TotalRamps

10. Does your agency have freeway entrance ramp metering? HaveRampMeters

[1] Yes

[2] No (go to question 18)

[3=No response]

11. Total number of ramps with ramp metering: TotalRampMeters

12. Total number of metered ramps with priority access for transit vehicles: RampMeters_Priority_Transit

13. Total number of metered ramps with bypass lanes for High Occupancy Vehicles (HOVs): RampMeters_HOV

14. Total number of metered ramps with preemption access capability for emergency vehicles: RampMeters_Preemption

15. Does your agency deploy automated enforcement technologies to assist with the enforcement of ramp metering compliance?

[1] Yes Ramp_meter_enforcement

[2] No

[3=No response]

16. Is ramp meter timing adjusted in coordination with nearby arterial traffic signal timing to manage queues that form on the ramp that spill back onto the adjacent arterial?

Ramp_meter_queue_arterial

[1] Yes

[2] No

[3=No response]

17. Under what circumstances do you meter traffic on ramps as a traffic management strategy? (Check all that apply)

1=Selected, 0=Not selected

Time of day (recurrent congestion)	Ramp_Meter_TimeOfDay
Traffic incidents	Ramp_Meter_Incidents
Planned special events	Ramp_Meter_Special
Weather (e.g., fog, rain, snow)	Ramp_Meter_Weather
Evacuation	Ramp_Meter_Evacuation
Other (please specify):	Ramp_Meter_OtherText

18. Is nearby arterial traffic signal timing adjusted to manage queues that form on the ramp that spill back onto the freeway facility?

Ramp_meter_queue_freeway

[1] Yes

[2] No

[3=No response]

19. Do you have any ramps with automated ramp closure capability? RampAutomatedClosureHave

[1] Yes

How many? RampAutomatedClosureHowMany

What conditions or circumstances trigger an antomated ramp closure? (Check all that apply)

1=Selected, 0=Not selected

During evacuations	RampClosureEvacuation
Planned special events	RampClosureSpecial
Emergencies	RampClosureEmergency
Weather events	RampClosureWeather
Other (please specify):	RampClosureOtherText

[2] No

[3=No response]

TRANSPORTATION MANAGEMENT CENTER (TMC)

20. Does your agency operate an Freeway Management Transportation Management Center (TMC)?

[1] Yes operate_tmc

TMC Name: operate_tmc_name

TMC Coverage: operate_tmc_coverage

[2] No

[3=No response]

MANAGED LANES Screening question: Operate managed lanes? operate_manage_lanes 1=Yes, 2=No, 3=No response

21a. Total number of freeway centerline miles featuring managed lanes: ManagedLanesTotal

21b. Please provide the estimated number of freeway centerline miles for each type of managed lane strategy:

Occupancy control (HOV):	ManagedLanesHOV
Reversible flow:	ManagedLanesReversible
Lane open/closed (traffic incidents, roadway maintenance, etc.):	ManagedLanesLaneClosed
Truck only:	ManagedLanesTruck
Variable speed limit:	ManagedLanesVariableSpeed
High Occupancy Toll (HOT):	ManagedLanesHOT
Other congestion pricing strategies:	ManagedLanesOtherCongestion
Other managed lane strategy (please specify):	ManagedLanesOtherManaged

ManagedLanesOtherText

21c. Does your agency have a written protocol or arrangement to suspend HOV/HOT enforcement under incident conditions?

[1] Yes ManagedLanes_suspendhovhot

[2] No

[3] Not applicable

[4=No response]

MODELING AND DECISION SUPPORT

22. Does your agency use any Analysis, Modeling and Simulation (AMS) tools to optimize/model the freeway system?

[1] Yes AnalysisModelingSimulation

Please specify: AnalysisModelingSimulationText

[2] No

[3=No response]

23. Has your agency deployed a decision support system to assist in operations of the following? (Check all that apply)

Road weather management	DecisionSupportWeather	1=Selected, 0=Not selected
Incident management	DecisionSupportIncident	
Emergency management	DecisionSupportEmergency	
Evacuation	DecisionSupportEvacuation	
Maintenance	DecisionSupportMaintenance	
No decision support system deployed	DecisionSupportNo	
Other (please specify):	DecisionSupportOtherText	

AUTOMATED ENFORCEMENT

24. Does your agency deploy automated speed enforcement technologies on freeway general use lanes?

[1] Yes AutoEnforcementSpeed

What types of technologies are used? (Check all that apply) 1=Selected, 0=Not selected

License plate recognition	AutoEnforcementSpeedLicense
Camera	AutoEnforcementSpeedCamera
Toll tag readers	AutoEnforcementSpeedToll
None	AutoEnforcementSpeedNone
Other (please specify):	AutoEnforcementSpeedOtherText

[2] No

[3=No response]

25. Does your agency deploy automated enforcement technologies to enforce High Occupancy Vehicle (HOV) restrictions on freeways?

[1] Yes AutoEnforcementHOV

What types of technologies are used? (Check all that apply) 1=Selected, 0=Not selected

- License plate recognition AutoEnforcementHOVLicense
- Camera AutoEnforcementHOVCamera
- Toll tag readers AutoEnforcementHOVToll
- None AutoEnforcementHOVNone
- Other (please specify): AutoEnforcementHOVOtherText

[2] No

[3] Not applicable (no HOV lanes)

[4=No response]

SAFETY AND ROAD WEATHER MANAGEMENT

26. Has your agency deployed any of the following safety systems? (Check all that apply) 1=Selected, 0=Not selected

- Over-height warning system SafetySystemOverWeight
- Automated and/or manual freeway ramp gates SafetySystemRampGates
- Reference Location Signs SafetySystemSigns
- Dynamic Curve Warning System SafetySystemDynamicCurve
- None of the above SafetySystemNone

27. What are your agencys sources of weather and road weather information? (Check all that apply) 1=Selected, 0=Not selected

- National Weather Service products WeatherSourceNationalWeather
- FAA (ASOS, AWOS, etc.) WeatherSourceFAA
- USGS earthquake alerts fWeatherSourceUSGS
- Agency field personnel WeatherSourceFieldPersonnel
- Agency field sensors (RWIS/ESS, probes, etc.) WeatherSourceFIeldSensors
- National sensor data sources (Clarus/MADIS) WeatherSourceClarus
- Private providers WeatherSourcePrivate
- Other (please specify): WeatherSourceOtherText

28. Does your agency employ safety warning systems related to road weather events?

[1] Yes EmploySafetyWarningWeather

What hazards are covered? (Check all that apply) 1=Selected, 0=Not selected

- High wind SafetyWarningWeatherHighWind
- Icy roads SafetyWarningWeatherIcyRoads
- Fog SafetyWarningWeatherFog
- Dust SafetyWarningWeatherDust
- Other SafetyWarningWeatherOther

[2] No

[3=No response]

29. Has your agency deployed any Environmental Sensor Stations (ESS)?

[1] Yes DeployESS

How many? DeployESSHowMany

What data are collected by ESS and in-pavement sensors? (Check all that apply) 1=Selected, 0=Not selected

Pavement temperature	ESSCollectPavementTemp
Pavement surface condition	ESSCollectPavementSurface
Pavement precipitation	ESSCollectPavementPrecip
Temperature	ESSCollectTemp
Humidity	ESSCollectHumidity
Wind speed	ESSCollectWindSpeed
Precipitation (rain)	ESSCollectRain
Precipitation (snow)	ESSCollectSnow
Other (please specify):	ESSCollectOtherText

[2] No

[3=No response]

30. Is your agency using or planning to use a Maintenance Decision Support System (MDSS) for winter maintenance? (MDSS includes software systems that provide strategic and tactical weather forecasts, support treatment decision making and provide summary.) MDSS

[1] Yes, agency uses an MDSS statewide

[2] Yes, considering (pilot project, used partially, used in one district)

[3] No, agency needs an MDSS, but does not have a system

[4] No, agency does not need an MDSS

[5=No response]

31. Does your agency implement restrictions on vehicles during inclement weather (e.g., road closures to high-profile vehicles during high winds, snow tire/chain requirements during winter weather)? TermporaryRestrictionsWeather

[1] Yes

[2] No

[3=No response]

32. Does your agency change traffic incident management practices in response to inclement weather (e.g., prepositioning assets, quick clearance during weather, etc.)? ChangeTrafficPractice

[1] Yes

[2] No

[3=No response]

33. Does your agency deploy variable speed limit systems? DeployVariableSpeedLimit

[1] Yes

What event triggers the deployment? (Check all that apply) 1=Selected, 0=Not selected

Weather EventTriggerWeather

Traffic volume EventTriggerTraffic

Incidents EventTriggerIncidents

Other (please specify): EventTriggerOtherText

[2] No

[3=No response]

INCIDENT MANAGEMENT/WORK ZONE MANAGEMENT

34. Total number of freeway centerline miles patrolled by service patrol: MilesServicePatrol

35. Please provide the number of freeway centerline miles covered by the following incident detection/verification methods:

Closed Circuit Television (CCTV): IncidentDetectionCCTVMiles

Call boxes: IncidentDetectionCallBoxesMiles

Computer algorithms to detect incidents: IncidentDetectionComputerMiles

Other (please specify): IncidentDetectionOtherMiles

IncidentDetectionOtherText

36. Total number of Closed Circuit Television (CCTV) cameras deployed on freeways: IncidentDetectionCCTVNumber

37. Does your agency deploy ITS technology at work zones? ITS_Work_Zones

[1] Yes

What ITS technologies does your agency deploy at work zones? (Check all that apply) 1=Selected, 0=Not selected

Intrusion alarm ITS_Work_Zones_Intrusion

Dynamic lane merge system ITS_Work_Zones_Dynamic

Queue detection and alert system ITS_Work_Zones_Queue

Variable speed limit ITS_Work_Zones_Variable

Travel time system ITS_Work_Zones_Travel_Time

Route guidance around work zones ITS_Work_Zones_Route_Guidance

Portable CCTV ITS_Work_Zones_Portable

Other (please specify): ITS_Work_Zones_OtherText

[2] No

[3=No response]

TRAVELER INFORMATION

38. Number of freeway centerline miles covered by Highway Advisory Radio (HAR): MilesHAR

39. Total number of permanent Dynamic Message Signs (DMS) deployed on freeways: NumberOfDMS

40. Does your agency use the DMS in the absence of incidents or special events? UseDMS

[1] Yes

Please describe: UseDMSDescribe

[2] No

[3=No response]

41. Does your agency have an agreement with a private vendor to push mobile alerts regarding incidents, roadway conditions, etc. to mobile media?

[1] Yes AgreementMobileAlerts

[2] No

[3=No response]

42. What methods are used to disseminate traveler information on freeways by your agency? (Check all that apply)

		1=Selected, 0=Not selected
511	method_traveler_511	
Other (non-511) telephone systems	method_traveler_other_phone	
Email or alert	method_traveler_email	
Twitter	method_traveler_twitter	
Facebook	method_traveler_facebook	
App for mobile device such as tablet or smart phone	fmethod_traveler_app	
Dynamic Message Signs	method_traveler_dms	
Website	method_traveler_Web	
Highway Advisory Radio	method_traveler_har	
Other (please specify):	method_traveler_OtherText	

43. Please indicate whether your agency reports any of the following information to the public. (Check all that apply)

		1=Selected, 0=Not selected
Roadway or lane blocking incidents and events on arterials	report_lane_blocking	
Work zone location and duration on arterials	report_work_zone	
Roadway weather observations on arterials	report_roadway_weather	
Freeway blocked or with other travel restrictions	report_arterial_blocked	
None of the above	report_none_above	

44. Do you report freeway travel time data?

[1] Yes report_travel_times_methods

What freeway travel time data are reported? (Check all that apply) 1=Selected, 0=Not selected

Travel time by segment	report_travel_times_segment
Travel time over selected route	report_travel_times_route
Other (please specify):	report_travel_times_OtherText

[2] No

[3=No response]

SYSTEM PERFORMANCE MANAGEMENT

45. Does your agency collect operations data to track freeway network system performance?

[1] Yes collect_data_track_performance

[2] No

[3=No response]

46. Does your agency have clearly stated and documented operational objectives and performance measures for the freeway system?

[1] Yes clearly_stated_objectives

Has your agency established targets for the performance measures?

[1] Yes establish_targets_measures

[2] No

[3=No response]

[2] No

[3=No response]

47. Does your agency use archived operations data to track freeway system performance?

[1] Yes use_archive_perf

What are the archived operations data used for? (Check all that apply) 1=Selected, 0=Not selected

Real-time Operations (e.g., used in real-time to adjust system operations)	use_archive_perf_realtime
Capital planning/analysis	use_archive_perf_capital
Operations planning/analysis	use_archive_perf_operations
Dissemination to the public	use_archive_perf_dissemination
Planning/analysis of work zone design	use_archive_perf_planning
Other (please specify):	use_archive_perf_other_text

[2] No

[3=No response]

48. Which of the following measures are used to report on the performance of the freeway system? (Check all that apply)

Travel time	performance_travel_time	1=Selected, 0=Not selected
Travel time reliability	performance_travel_reliability	
Vehicles per lane per mile	fperformance_vehicle_lane	
Vehicles per hour	performance_vehicle_hour	
Person throughput per lane per hour	performance_person_lane	
Person throughput per hour	performance_person_hour	
Average auto occupancy	performance_average	
Average queue length	performance_average_queue	
Performance measures are not used	performance_not_used	
Other (please specify):	fperformance_otherText	

MAINTENANCE OF FREEWAY MANAGEMENT ITS TECHNOLOGY

49. Does your agency utilize an asset management system to track infrastructure inventory and related maintenance and operations activity?

asset_mgt_system

[1] Yes
[2] No

[3=No response]

50. Does your agency have a preventive maintenance program for ITS devices?

[1] Yes preventive_maint_its

How often are your ITS devices inspected and re-calibrated?

a. Loop detectors preventive_maint_loop

[1] Less than once annually
[2] Once annually
[3] More than once annually
[4] Not regularly inspected and recalibrated
[5] Not Applicable

[6=No response]

b. Other Types of Detectors (radar, microwave, toll tag readers) preventive_maint_radar

[1] Less than once annually
[2] Once annually
[3] More than once annually
[4] Not regularly inspected and recalibrated
[5] Not Applicable

[6=No response]

c. CCTV Cameras preventive_maint_cctv

[1] Less than once annually
[2] Once annually
[3] More than once annually
[4] Not regularly inspected and recalibrated
[5] Not Applicable

[6=No response]

d. Other (please specify): preventive_maint_otherText

preventive_maint_other

[1] Less than once annually
[2] Once annually
[3] More than once annually

[2] No

[3=No response]

51. How are decisions for maintenance, repairs, and replacement of ITS devices made? (Check all that apply)

1=Selected, 0=Not selected

Reaction to failure in component or device	decisions_its_reaction
Planned program of routine and preventive maintenance	decisions_its_planned
Results of inspection and monitoring of conditions	decisions_its_inspection
Cost/ benefit analysis	decisions_its_cost
Estimated service life	decisions_its_estimated
Obsolescence (e.g. device becomes obsolete/out-of-date)	decisions_its_obsolescence
Other (please specify):	decisions_its_otherText

52. Does your agency collect data on the overall health and maintenance of ITS devices and equipment?

[1] Yes collect_data_health_its

What sources of data are used? 1=Selected, 0=Not selected

Inspections	collected_inspection
Complaint calls	collected_complaints
Real-time monitoring	collected_realtime
Other (please specify):	collected_otherText

For which of the following purposes does your agency use the data on equipment health and maintenance? (Check all that apply)

1=Selected, 0=Not selected	
To make investment decisions	purpose_health_invest
To monitor specified performance metrics	purpose_health_monitor_metrics
To monitor specified performance trends	purpose_health_monitor_trends
To conduct benefit-cost analysis	purpose_health_conduct
To communicate to decision makers	purpose_health_communicate_decision
To communicate to public	purpose_health_communicate_public
Other (please specify):	purpose_health_otherText

[2] No

[3=No response]

DEDICATED SHORT RANGE COMMUNICATIONS (DSRC) STANDARD

53. Is your agency familiar with Dedicated Short Range Communications (DSRC) technology?

[1] Yes familiar_DSRC

[2] No (go to Next Section)

[3=No response]

54. Does your agency currently use or have plans to use dedicated short range communications (DSRC) in operating any of its ITS infrastructure? currently_use_plan_DSRC

[1] Currently use DSRC

[2] Plan to use DSRC

[3] No plans to use DSRC (go to Next Section)

[4=No response]

55. Is your agency using or does it plan to use any DSRC-enabled technologies to support the deployment of the following:

1=Selected, 0=Not selected	Currently Using	Plan to Use	No Plans to Use
Safety applications (e.g. intersection collision avoidance)	DSRC_safety_currently	DSRC_safety_plan	DSRC_safety_noplans
Mobility applications	DSRC_mobility_currently	DSRC_mobility_plan	DSRC_mobility_noplans
Tolling operations	DSRC_tolling_currently	DSRC_tolling_plan	DSRC_tolling_noplans
Commercial Vehicle Operations and regulation	DSRC_commercial_currently	DSRC_commercial_plan	DSRC_commercial_noplans

INTEGRATED CORRIDOR MANAGEMENT

56. Have you identified corridor(s) for the purpose of integrating operations across multiple transportation facilities (including freeways, major arterials, and public transit networks) in order to actively manage travel demand and capacity in the corridor as a whole?

[1] Yes icm_identified_corridors

How many corridors have been identified for integrated transportation operations? icm_identified_number_corridors

[1] 1 corridor identified

[2] 2 corridors identified

[3] 3 or more corridors identified

[4=No response]

[2] No (go to Next Section)

[3=No response]

57. The next set of questions all pertain specifically to the corridor you identified above. If you identified more than one corridor, please tell us about the corridor where the greatest level of coordination is taking place. In your responses, please do NOT include coordination efforts that are occurring outside the specific corridor you have identified.

Please name the key facilities that comprise the corridor (please be as specific as possible):

a. Freeway(s) (e.g., US-75): icm_name_freeway

b. Key Arterial(s) (e.g., Greenville Avenue, US-75 Frontage Roads): icm_name_arterial

c. Public Transit Services (e.g., DART Red/Orange Light Rail Line, MTS Express Bus): icm_name_transit

d. Other (e.g., freight, rail, bicycle, pedestrian): icm_name_other

58. Approximately how long is the corridor? icm_length

[1] Less than 10 miles

[2] 11-20 miles

[3] 21-30 miles

[4] 31-50 miles

[5] More than 50 miles

[6=No response]

59. For each agency type listed below, please indicate whether you are currently coordinating or plan to coordinate integrated transportation operations in the corridor specified above. If yes, please provide the name of the agencies in the corridor with which your agency is coordinating (referred to as the "coordinating agencies" in this survey). Please do NOT include coordination efforts that are occurring outside the corridor. For each agency type, a-d, select only one response.

1=Selected, 0=Not selected

	Currently Coordinate in Corridor	Plan to Coordinate in Corridor	No Plans to Coordinate in Corridor	Not Applicable	Agency Names
a. Freeway agencies:	icm_currently_coord_freeway	icm_plan_coord_freeway	icm_no_plans_coord_freeway	icm_coord_not_applicable_freeway	icm_coord_freeway_name
b. Arterial agencies:	icm_currently_coord_arterial	icm_plan_coord_arterial	icm_no_plans_coord_arterial	icm_coord_not_applicable_arterial	icm_coord_arterial_name
c. Transit agencies:	icm_currently_coord_transit	icm_plan_coord_transit	icm_no_plans_coord_transit	icm_coord_not_applicable_transit	icm_coord_transit_name
d. Other agencies (e.g., MPOs, Toll Authorities, Port Operators):	icm_currently_coord_other	icm_plan_coord_other	icm_no_plans_coord_other	icm_coord_not_applicable_other	icm_coord_other_name

60. a. Has your agency signed any formal multi-jurisdictional or multi-agency Agreements, Memorandums of Understanding (MOUs), or other instruments with these coordinating agencies regarding the integrated operations of the corridor?

[1] Yes, already signed icm_signed_agreements

- [1] One instrument signed icm_yes_signed_agreements
- [2] Multiple instruments signed
- [3=No response]

[2] Agreements, MOUs, or instruments are being developed (plan to sign)

[3] No, there is no plan to develop or sign Agreements, MOUs, or other instruments

[4] Do not know

[5=No response]

IF SIGNED OR PLAN TO SIGN:

Please describe what is covered by the Agreements, MOUs, or instruments: icm_describe_coverage_agreement

61. How are data about conditions in the corridor shared among the coordinating agencies? (Check all that apply)

1=Selected, 0=Not selected

Manual data sharing: Corridor stakeholders call, radio, fax or email relevant corridor data to one another icm_data_cond_manual

Automated sharing of real-time video data (video servers/switcher communicate directly to one another in real time to share video images through video protocols) icm_data_cond_auto_video

Automated sharing of real-time data (computers, database servers communicate directly to one another to transmit data automatically (in real time) via center-to-center protocols) icm_data_cond_auto

In general is this sharing of real-time data active or passive? (select one) icm_auto_active_passive

- [1] Active (your agency receives alerts; data is pushed to your agency)
- [2] Passive (your agency must access the data; no alerts are received)
- [3=No response]

Information Clearing House/Information Exchange Network (IEN) between corridor networks/agencies (a software system that collects, aggregates, warehouses and distributes traffic flow/transit performance data and incident/construction data for the corridor. All corridor agencies can access the agency/network information) icm_data_cond_ein

In general is this sharing of data active or passive? (select one) icm_ein_auto_passive

- [1] Active (your agency receives alerts; data is pushed to your agency)
- [2] Passive (your agency must access the data; no alerts are received)
- [3=No response]

Other (please specify): icm_data_cond_other_text

62. a. We want to understand if data is sent and/or received among the coordination agencies in the corridor. For each type of data below, please indicate if your agency receives this data from the other coordinating agencies in the corridor, collects and sends this data to the other coordinating agencies, collects but does not send this data to the other coordinating agencies, or does not collect this data. For each item, a-i, check all that apply.

1=Selected, 0=Not selected

My agency Receives	My agency Collects and Sends	My agency Collects but does not send	My agency does not collect	Not Applicable
a. Freeway incident data				
icm_receives_freeway_incident	icm_sends_freeway_incident	icm_collects_not_share_freeway_incident	icm_not_collect_freeway_incident	icm_not_applicable_freeway_incident
b. Freeway traffic volumes, speeds, or travel times				
icm_receives_freeway_traffic	icm_sends_freeway_traffic	icm_collects_not_share_freeway_traffic	icm_not_collect_freeway_traffic	icm_not_applicable_freeway_traffic
c. Arterial incident data				
icm_receives_arterial_indicent	icm_sends_arterial_indicent	icm_collects_not_share_arterial_indicent	icm_not_collect_arterial_indicent	icm_not_applicable_arterial_indicent
d. Arterial traffic volumes, speeds, or travel times				
icm_receives_arterial_traffic	icm_sends_arterial_traffic	icm_collects_not_share_arterial_traffic	icm_not_collect_arterial_traffic	icm_not_applicable_arterial_traffic
e. Transit incident data				
icm_receives_transit_incident	icm_sends_transit_incident	icm_collects_not_share_transit_incident	icm_not_collect_transit_incident	icm_not_applicable_transit_incident
f. Transit vehicle location data (AVL)				
icm_receives_transit_location	icm_sends_transit_location	icm_collects_not_share_transit_location	icm_not_collect_transit_location	icm_not_applicable_transit_location
g. Transit schedule adherence data				
icm_receives_transit_schedule	icm_sends_transit_schedule	icm_collects_not_share_transit_schedule	icm_not_collect_transit_schedule	icm_not_applicable_transit_schedule
h. Transit passenger count data				
icm_receives_transit_passenger	icm_sends_transit_passenger	icm_collects_not_share_transit_passenger	icm_not_collect_transit_passenger	icm_not_applicable_transit_passenger
i. Other data (please describe): icm_send_rec_other_text				
icm_receives_other	icm_sends_other	icm_collects_not_share_other	icm_not_collect_other	icm_not_applicable_other

b. For each type of data that is sent or received among coordinating agencies (as indicated in part a above), please indicate with what level of frequency the data is shared. For each item, a-i, select only one response.

1=Selected, 0=Not selected

	0-5 Minutes	6-15 Minutes	16-59 Minutes	60+ Minutes
a. Freeway incident data	icm_freq_5_freeway_incident	icm_freq_15_freeway_incident	icm_freq_59_freeway_incident	icm_freq_60_freeway_incident
b. Freeway traffic volumes, speeds, or travel times	icm_freq_5_freeway_traffic	icm_freq_15_freeway_traffic	icm_freq_59_freeway_traffic	icm_freq_60_freeway_traffic
c. Arterial incident data	icm_freq_5_arterial_indicent	icm_freq_15_arterial_indicent	icm_freq_59_arterial_indicent	icm_freq_60_arterial_indicent
d. Arterial traffic volumes, speeds, or travel times	icm_freq_5_arterial_traffic	icm_freq_15_arterial_traffic	icm_freq_59_arterial_traffic	icm_freq_60_arterial_traffic
e. Transit incident data	icm_freq_5_transit_incident	icm_freq_15_transit_incident	icm_freq_59_transit_incident	icm_freq_60_transit_incident
f. Transit vehicle location data (AVL)	icm_freq_5_transit_location	icm_freq_15_transit_location	icm_freq_59_transit_location	icm_freq_60_transit_location
g. Transit schedule adherence data	icm_freq_5_transit_schedule	icm_freq_15_transit_schedule	icm_freq_59_transit_schedule	icm_freq_60_transit_schedule
h. Transit passenger count data	icm_freq_5_transit_passenger	icm_freq_15_transit_passenger	icm_freq_59_transit_passenger	icm_freq_60_transit_passenger
i. Other data (described above):	icm_freq_5_other	icm_freq_15_other	icm_freq_59_other	icm_freq_60_other

63. For each of the following types of operations strategies please indicate whether your agency is currently coordinating or plans to coordinate operations with other corridor agencies across transportation facilities (i.e., freeway, arterial and transit) in order to achieve shared operations objectives. For each item, a-n, select only one response.

For example, if traffic signal timing is coordinated across facilities, then signal timing on arterials is adjusted based on information about both freeway and arterial conditions.

1=Selected, 0=Not selected	Currently Coordinate Across Facilities	Plan to Coordinate Across Facilities	No Plans to Coordinate	Not Applicable
a. Traffic incident management	icm_coord_incident_currently	icm_coord_incident_plan	icm_coord_incident_no_plans	icm_coord_incident_na
b. Freeway ramp metering	icm_coord_ramp_currently	icm_coord_ramp_plan	icm_coord_ramp_no_plans	icm_coord_ramp_na
c. Emergency management (e.g., evacuations)	icm_coord_evac_currently	icm_coord_evac_plan	icm_coord_evac_no_plans	icm_coord_evac_na
d. Cross jurisdictional traffic signal coordination	icm_coord_cross_currently	icm_coord_cross_plan	icm_coord_cross_no_plans	icm_coord_cross_na
e. Traffic responsive signal timing/coordination	icm_coord_resp_currently	icm_coord_resp_plan	icm_coord_resp_no_plans	icm_coord_resp_na
f. Transit signal priority	icm_coord_priority_currently	icm_coord_priority_plan	icm_coord_priority_no_plans	icm_coord_priority_na
g. Physical bus priority (e.g. bus-on-shoulder)	icm_coord_bus_currently	icm_coord_bus_plan	icm_coord_bus_no_plans	icm_coord_bus_na
h. Demand-sensitive transit capacity increases (e.g., add cars/routes)	icm_coord_demand_currently	icm_coord_demand_plan	icm_coord_demand_no_plans	icm_coord_demand_na
i. Real-time parking availability information (e.g., at transit stations)	icm_coord_realtime_currently	icm_coord_realtime_plan	icm_coord_realtime_no_plans	icm_coord_realtime_na
j. Road weather management	icm_coord_weather_currently	icm_coord_weather_plan	icm_coord_weather_no_plans	icm_coord_weather_na
k. Planned special events	icm_coord_special_currently	icm_coord_special_plan	icm_coord_special_no_plans	icm_coord_special_na
l. Real-time traveler information delivered pre-trip	icm_coord_pretip_currently	icm_coord_pretip_plan	icm_coord_pretip_no_plans	icm_coord_pretip_na
m. Real-time information delivered en-route (e.g., Dynamic Message Signs)	icm_coord_enroute_currently	icm_coord_enroute_plan	icm_coord_enroute_no_plans	icm_coord_enroute_na
n. Electronic multimodal payment systems	icm_coord_multimodal_currently	icm_coord_multimodal_plan	icm_coord_multimodal_no_plan	icm_coord_multimodal_na
o. Other (please specify): icm_coord_otherText	icm_coord_other_currently	icm_coord_other_plan	icm_coord_other_no_plans	icm_coord_other_na

64. How would you describe the institutional coordination among the corridor stakeholders? Please select one response from the following scale, which ranges from less formal institutional coordination (1) to more formal institutional coordination (5).

[1] 1 (Less Formal) - Ad hoc coordination; no regular meetings; corridor stakeholders address near-term issues only

[2] 2 - Informal working groups; regular meetings among corridor stakeholders

[3] 3 - Formally established working groups; assigned responsibilities for Integrated Corridor Management

[4] 4 - Funded staff person(s) and well defined responsibilities for Integrated Corridor Management

[5] 5 (More Formal) - Legal entity with dedicated resources and a governing board

icm_inst_coord

[6=No response]

65. Have the coordinating agencies in the corridor developed any of the following Integrated Corridor Management (ICM) documents for the corridor? For each item, a-d, select only one response.

1=Selected, 0=Not selected	Document Completed	Currently Developing	Plan to Develop Next 2-3 Years	No Immediate Plans to Develop	Do Not Know
a. ICM Concept of Operations (ConOps)	icm_ICM_doc_ConOps_Complete	icm_ICM_doc_ConOps_Developing	icm_ICM_doc_ConOps_Plans	icm_ICM_doc_ConOps_NoPlan	icm_ICM_doc_ConOps_DontKnow
b. ICM System Requirements Specifications (SyRS)	icm_ICM_doc_SyRS_Complete	icm_ICM_doc_SyRS_Developing	icm_ICM_doc_SyRS_Plans	icm_ICM_doc_SyRS_NoPlan	icm_ICM_doc_SyRS_DontKnow
c. ICM Analysis Modeling and Simulation (AMS) Plan	icm_ICM_doc_AMS_Complete	icm_ICM_doc_AMS_Developing	icm_ICM_doc_AMS_Plans	icm_ICM_doc_AMS_NoPlan	icm_ICM_doc_AMS_DontKnow
d. ICM Implementation Plan	icm_ICM_doc_Plan_Complete	icm_ICM_doc_Plan_Developing	icm_ICM_doc_Plan_Plans	icm_ICM_doc_Plan_NoPlan	icm_ICM_doc_Plan_DontKnow

66. Have the coordinating agencies in the corridor developed a documented set of response plans or strategies, in any level of detail, that are based on shared operational objectives and that are designed to optimize performance in the corridor as a whole (e.g., across transportation facilities/modes) during conditions of both recurring and non-recurring congestion? In your response, please do not include response plans developed for emergency situations, such as evacuations.

[1] Response plans or strategies have been developed for day-to-day operations during conditions of both recurring and non-recurring congestion

icm_response_plans

[2] Response plans or strategies are currently being developed

[3] There are plans to develop response plans or strategies

[4] There are no plans to develop response plans or strategies (skip to last question for additional comments)

[5] Do not know

[6=No response]

67. Has your agency deployed or does it plan to deploy a Decision Support System (DSS) to assist in the integrated operations of the Corridor?
NOTE: A DSS is a subsystem that utilizes measurements of real-time corridor conditions to recommend coordinated response plans to all corridor agencies. The DSS continues to update its recommendation based on corridor measurements showing changing corridor conditions.

icm_decision_support_system

[1] Yes, deployed

[2] Plan to deploy

[3] No (no plans to deploy)

[4] Do not know

[5=No response]

68. Have the coordinating agencies identified corridor-level/multimodal performance measures (e.g., person throughput, average travel time, average travel speed, etc.) that will be used to measure the effectiveness of the strategies and response plans that are implemented in the corridor?

icm_identified_perf_measures

[1] Yes, corridor-level/multimodal performance measures identified

[2] Agency plans to identify corridor-level/multimodal performance measures

[3] No plans to identify corridor-level/multimodal performance measures

[4] Do not know

[5=No response]

69. Additional comments about the integration and coordination of operations in the corridor:

icm_additional_comments

ITS FUNDING Screening question: Do you have a separate budget for ITS? its_budget 1=Yes, 2=No, 3=No response

70a. Please indicate whether you track the budget separately for each of the following categories:

ITS Planning and Systems Engineering	its_budget_planning	1=Selected, 0=Not selected
Device Installation	its_budget_device	
ITS Operations	its_budget_operations	
ITS Maintenance and Inspection	its_budget_maintenance	
Repair of ITS Technologies	its_budget_repair	
Do not track categories separately (go to next section)	its_budget_do_not_track	
Other (please specify):	its_budget_otherText	

70b. Please indicate the percentage of budget allocated to each category that is separately tracked:

	% of Budget Allocated
ITS Planning and Systems Engineering	its_budget_planning_percent
Device Installation	its_budget_device_percent
ITS Operations	its_budget_operations_percent
ITS Maintenance and Inspection	its_budget_maintenance_percent
Repair of ITS Technologies	its_budget_repair_percent
Other (specified above)	its_budget_other_percent

ITS PURCHASE DECISION-MAKING

71. Please rate the importance of each of the following factors to your agencys decision to purchase ITS technologies: (1 = Not at All Important; 2 = Not Very Important; 3 = Neutral; 4 = Somewhat Important; 5 = Very Important) Please check only one rating box per row. 1=Selected, 0=Not selected

	Not at All Important	Not Very Important	Neutral	Somewhat Important	Very Important
Cost of initial deployment	Cost_Initial_NotAtAll	Cost_Initial_NotVery	Cost_Initial_Neutral	Cost_Initial_Somewhat	Cost_Initial_Very
Cost to maintain and repair	Cost_Maint_NotAtAll	Cost_Maint_NotVery	Cost_Maint_Neutral	Cost_Maint_Somewhat	Cost_Maint_Very
Public/constituent involvement	Public_NotAtAll	Public_NotVery	Public_Neutral	Public_Somewhat	Public_Very
Funding/grant availability	Funding_NotAtAll	Funding_NotVery	Funding_Neutral	Funding_Somewhat	Funding_Very
Mobility benefits (e.g., to address congestion)	Mobility_NotAtAll	Mobility_NotVery	Mobility_Neutral	Mobility_Somewhat	Mobility_Very
Safety benefits	Safety_NotAtAll	Safety_NotVery	Safety_Neutral	Safety_Somewhat	Safety_Very
Environmental benefits	Environmental_NotAtAll	Environmental_NotVery	Environmental_Neutral	Environmental_Somewhat	Environmental_Very
Integration with other agencies	Int_agencies_NotAtAll	Int_agencies_NotVery	Int_agencies_Neutral	Int_agencies_Somewhat	Int_agencies_Very
Integration with your current technologies	Int_tech_NotAtAll	Int_tech_NotVery	Int_tech_Neutral	Int_tech_Somewhat	Int_tech_Very
Already used by other agencies	Already_NotAtAll	Already_NotVery	Already_Neutral	Already_Somewhat	Already_Very
Other (please specify): Other_Factor_Text	Other_NotAtAll	Other_NotVery	Other_Neutral	Other_Somewhat	Other_Very

72a. Does your agency have any plans to invest in new ITS technology or to expand current ITS coverage in 2014 through 2016?

[1] Yes invest_its

Check all that apply: 1=Selected, 0=Not selected

Invest in new ITS invest_its_new

Expand current ITS coverage invest_its_expand

[2] No

[3=No response]

72b. Please describe new ITS (if applicable): invest_its_describe

BENEFITS OF FREEWAY MANAGEMENT TECHNOLOGIES

73. Based on your agency experience, please rate the benefits of the following ITS technologies on freeways. Select a rating from 1 (No Benefit) to 5 (Significant Benefit) or No Experience in each row. Please check only one rating box per row.

1=Selected, 0=Not selected

	No Benefit (1)	(2)	Moderate Benefit (3)	(4)	Major Benefit (5)	No Experience
Traffic Sensors	Traffic_Sensors_1	Traffic_Sensors_2	Traffic_Sensors_3	Traffic_Sensors_4	Traffic_Sensors_5	Traffic_Sensors_NO
Vehicle Probes	Vehicle_Probes_1	Vehicle_Probes_2	Vehicle_Probes_3	Vehicle_Probes_4	Vehicle_Probes_5	Vehicle_Probes_NO
Toll Tags	Toll_Tags_1	Toll_Tags_2	Toll_Tags_3	Toll_Tags_4	Toll_Tags_5	Toll_Tags_NO
Cameras	Cameras_1	Cameras_2	Cameras_3	Cameras_4	Cameras_5	Cameras_NO
Ramp Control	Ramp_Control_1	Ramp_Control_2	Ramp_Control_3	Ramp_Control_4	Ramp_Control_5	Ramp_Control_NO
Lane Management	Lane_Management_1	Lane_Management_2	Lane_Management_3	Lane_Management_4	Lane_Management_5	Lane_Management_NO
Traveler Information	Traveler_Information_1	Traveler_Information_2	Traveler_Information_3	Traveler_Information_4	Traveler_Information_5	Traveler_Information_NO
Automated Enforcement	Automated_Enforcement_1	Automated_Enforcement_2	Automated_Enforcement_3	Automated_Enforcement_4	Automated_Enforcement_5	Automated_Enforcement_NO
Archived Data	Archived_Data_1	Archived_Data_2	Archived_Data_3	Archived_Data_4	Archived_Data_5	Archived_Data_NO
Environmental Sensor Stations	Environmental_Sensor_1	Environmental_Sensor_2	Environmental_Sensor_3	Environmental_Sensor_4	Environmental_Sensor_5	Environmental_Sensor_NO

PLANNING FOR OPERATIONS

74. Is there a long range ITS plan to guide project/program selection?

[1] Yes long_range_its_plan

[2] No

[3=No response]

75. Does your agency routinely utilize systems engineering to identify agency needs and requirements when implementing/procuring ITS?

[1] Yes routinely_utilize_system_eng

[2] No

[3=No response]

76. Does your agency rely on sample or model procurement documents provided by FHWA?

[1] Yes rely_sample_model_procurement

[2] No

[3=No response]

77. Is your agency part of the Regional ITS Architecture used to support regional transportation planning?

[1] Yes regional_its_architecture

[2] No

[3=No response]

78. Is your agency included in a Regional Concept for Transportation Operations?

[1] Yes regional_concept

[2] No

[3=No response]

79. Does your agency receive, in real-time, incident information (e.g., clearance activities, type severity, etc.) from any public safety agency?

Incident Clearance	receive_realtime_incident_clearance	1=Yes, 2=No, 3=No response
Incident Severity and Type	receive_realtime_incident_severity	

80. Does your agency provide, in real-time, incident information (e.g., type, severity, etc.) and/or freeway information (e.g., travel times, speed and condition) to the following types of agencies? (Check all that apply)

1=Yes, 2=No, 3=No response	Incident Information (e.g., type, severity, etc.)	Freeway Information (e.g., travel times, speed and condition)
Freeway Management agencies	provide_freeway_incident	provide_freeway_freeway
Arterial Management agencies	provide_arterial_incident	provide_arterial_freeway
Public Transit agencies	provide_public_incident	provide_public_freeway
Law Enforcement public safety agencies	provide_law_incident	provide_law_freeway
Fire Rescue public safety agencies	provide_fire_incident	provide_fire_freeway
Other agencies	provide_other_incident	provide_other_freeway

81. Select all that apply concerning your agencys participation in regional coordination activities:

1=Selected
0=Not selected

No regular interagency meetings	participate_regional_no
Regular meetings with other agencies to coordinate planning	participate_regional_meet_plan
Regular meetings to coordinate operations	participate_regional_meet_operate
Formal agreement on coordination and data sharing with other agencies	participate_regional_agree_data
Formal agreement to integrate operations with other agencies	participate_regional_agree_operate

ADDITIONAL COMMENTS

82. Please use the space below to provide any additional comments regarding your agency's deployment, operations or maintenance of ITS. (Please be as specific as possible when commenting on particular ITS technologies.)

additional_comments